

## Claims

1. A pigment, the particles of which generally have a length of from 2  $\mu\text{m}$  to 5 mm, a width of from 2  $\mu\text{m}$  to 2 mm, and a thickness of from 20 nm to 2  $\mu\text{m}$ , and a ratio of length to thickness of at least 2 : 1, wherein the particles contain a core of  $\text{SiO}_y$  with  $0.70 \leq y \leq 1.95$ , especially  $1.1 \leq y \leq 1.8$ , having two substantially parallel faces, the distance between which is the shortest axis of the core, comprising (a) a material, especially a metal oxide, having a high index of refraction.
2. The pigment, the particles of which generally have a length of from 2  $\mu\text{m}$  to 5 mm, a width of from 2  $\mu\text{m}$  to 2 mm, and a thickness of from 20 nm to 2  $\mu\text{m}$ , and a ratio of length to thickness of at least 2 : 1, wherein the particles contain a core of  $\text{SiO}_y$  with  $0.70 \leq y \leq 1.95$ , especially  $1.1 \leq y \leq 1.8$ , having two substantially parallel faces, the distance between which is the shortest axis of the core, comprising (a) a thin semi-transparent metal layer.
3. The pigment according to claim 1, wherein the pigment comprises in addition (b) a metal oxide of low refractive index, wherein the difference of the refractive indices is at least 0,1.
4. The pigment according to claim 1 or 3, wherein the metal oxide of high refractive index is  $\text{TiO}_2$ ,  $\text{ZrO}_2$ ,  $\text{Fe}_2\text{O}_3$ ,  $\text{Fe}_3\text{O}_4$ ,  $\text{Cr}_2\text{O}_3$ ,  $\text{ZnO}$  or a mixture of these oxides or an iron titanate, an iron oxide hydrate, a titanium suboxide or a mixture and/or mixed phase of these compounds.
5. The pigment according to any of claims 1, 3, or 4, wherein the metal oxide of low index of refraction is  $\text{SiO}_2$ ,  $\text{Al}_2\text{O}_3$ ,  $\text{AlOOH}$ ,  $\text{B}_2\text{O}_3$ , or a mixture thereof, wherein alkali or earth alkali metal oxides can be contained as additional component.
6. The pigment according to any of claims 1 to 5, wherein the  $\text{SiO}_y$  core has a thickness of from 20 to 200 nm, especially from 50 to 150 nm, most preferred 60 to 120 nm.
7. A process for producing the interference pigment according to any of claims 1 and 3 to 6, by alternately coating  $\text{SiO}_y$  flakes with a metal oxide with a high refractive index and a metal oxide with a low refractive index in a wet process by hydrolysis of the

corresponding water-soluble metal compounds, by separating, drying and optionally calcinating the pigment thus obtained.

- 5 8. A process for producing the pigment according to claim 2, wherein  $\text{SiO}_y$  flakes are suspended in an aqueous and/or organic solvent containing medium in the presence of a metal compound and the metal compound is deposited onto  $\text{SiO}_y$  flakes by addition of a reducing agent.
- 10 9. A pigment, the particles of which generally have a length of from 2  $\mu\text{m}$  to 5 mm, a width of from 2  $\mu\text{m}$  to 2 mm, and a ratio of length to thickness of at least 2 : 1, wherein the particles contain a core of  $\text{SiO}_2$  or a silicon/silicon oxide core obtainable by heating  $\text{SiO}_y$  flakes with  $0.70 \leq y \leq 1.80$ , especially  $1.1 \leq y \leq 1.8$ , in an oxygen-free atmosphere at a temperature of at least 400°C, having two substantially parallel faces, the distance between which is the shortest axis of the core, comprising
- 15 a material, especially a metal oxide, having a high index of refraction, or a thin semi-transparent metal layer and optionally further layers, wherein the core has a thickness of from 20 to 200 nm, especially from 40 to 150 nm, most preferred 60 to 120 nm.
- 20 10. Use of the pigments according to any of claims 1 to 6 or 9 in paints, ink-jet printing, for dyeing textiles, for pigmenting coatings, printing inks, plastics, cosmetics, glazes for ceramics and glass.
- 25 11. Paints, printing inks, plastics, cosmetics, ceramics and glass, which are pigmented with a pigment Pigment according to any of claims 1 to 6 or 9.